

## **ABSTRACT**

### **BACKGROUND**

Colorectal cancer (CRC) is the third most common cancer worldwide with a high mortality at the advanced stages. The prognosis in each individual case varies with tumour type, stage and grade. However, there is a heterogeneity in the clinical features and survival rates among the patients with the same stage. Hence the application of immunohisto-chemical studies with proliferation markers such as Ki67, provides a step ahead in establishing the prognosis.

### **METHODOLOGY**

This study was conducted on the 42 cases of colorectal carcinoma reported in the Department of Pathology, Tirunelveli Medical College during the period 2015 to 2018. Sections obtained from tumour tissue were stained with haematoxylin and eosin for histological typing and grading of colorectal carcinomas. The pathological tumor staging was performed according to the American Joint Committee on cancer by grouping the various TNM components. Tumour cell proliferation was studied by doing immunohistochemistry with Ki67 antibody. An analysis was done by correlating the Ki67 index with the stage and grade of the tumour in these 42 cases of colorectal carcinoma.

### **RESULTS**

Among the 42 cases, 34 cases were found to be Adenocarcinoma, NOS type(81%), 7 cases were Mucinous adenocarcinoma(16.7%) and 1 case was Squamous cell carcinoma(2.4%). The Ki67 index calculated for the 42 cases of colorectal carcinomas ranged from 14.5% to 74.6%. The mean Ki67 index for the 14 cases of well-differentiated adenocarcinomas was 54.15% , 16 cases of moderately differentiated carcinomas was 50.83%, for 4 cases of poorly differentiated carcinomas was 63.95%, 7 cases of mucinous adenocarcinomas was 33.34% and 1 case of squamous cell carcinoma was 60.1%. However not all cases in the study showed direct correlation tumour grade, stage and Ki67 index. Among the 42 cases in the study, 8 cases (19%) had a Ki67 proliferation index that didn't correlate with their stage and grade at presentation .

### **CONCLUSION**

Immunohistochemical study of Ki67 proliferation index in cases of colorectal carcinoma was found to provide an additional clue regarding the biological behavior in a significant number of cases and could help in predicting the prognosis of colorectal carcinomas.

**Keywords:** Colorectal Carcinoma, Prognosis, Ki67 proliferation index